

Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (amended) ~~A pyrotechnic device~~ An electronic detonator for use in mining or blasting and having firing-readiness diagnostics, comprising an igniter and electronic circuitry configured and/or programmed to perform one or more firing-readiness diagnostics on said ~~pyrotechnic device~~ electronic detonator.
2. (amended) The ~~device~~ electronic detonator of claim 1, wherein said igniter includes an ignition element, and said electronic circuitry comprises a resistance check module.
3. (amended) The ~~device~~ electronic detonator of claim 1, wherein said igniter includes an ignition element, and said electronic circuitry comprises a continuity check module.
4. (amended) The ~~device~~ electronic detonator of claim 3, wherein said ~~device~~ electronic detonator includes an ASIC that contains said electronic circuitry.
5. (amended) The ~~device~~ electronic detonator of claim 4, wherein said ~~device is an electronic detonator, said~~

igniter is hermetically sealed, and said ignition element is a bridgewire.

6. (amended) The ~~device~~ electronic detonator of claim 1, wherein said igniter includes a firing capacitor, and said electronic circuitry is configured and/or programmed to verify that the firing capacitor has a capacitance above or below a certain value.
7. (amended) The ~~device~~ electronic detonator of claim 1, wherein said igniter includes a firing capacitor, and said electronic circuitry is configured and/or programmed to verify that the firing capacitor has a capacitance above a first value and below a second value.
8. (canceled)
9. (amended) The ~~device~~ electronic detonator of claim 7, wherein said igniter further includes an ignition element, and said electronic circuitry includes a resistance check module.
10. (amended) The ~~device~~ electronic detonator of claim 7, wherein said igniter further includes an ignition element, and said electronic circuitry includes a continuity check module.

11. (amended) The ~~device~~ electronic detonator of claim 10, wherein said ~~device is an electronic detonator~~, said igniter is hermetically sealed, and said ignition element is a bridgewire.
12. (amended) An electronically connected system for use in mining or blasting comprising:
- a) a master device;
  - b) a bus connected to said master device; and,
  - c) a plurality of electronic ~~pyrotechnic devices~~ detonators connected to said bus, each said ~~pyrotechnic device~~ electronic detonator comprising an igniter and electronic circuitry configured and/or programmed to perform one or more ~~pyrotechnic device~~ electronic detonator firing-readiness diagnostics.
13. (amended) The electronically connected system of claim 12, wherein said igniter includes a firing capacitor, and said electronic circuitry is configured and/or programmed to verify that the firing capacitor has a capacitance above a first value and below a second value.
14. (amended) The electronically connected system of claim 13, wherein said igniter further includes an ignition element, and said electronic circuitry includes a continuity check module.

15. (amended) The electronically connected system of claim 14, wherein said ~~device is an electronic detonator,~~ said igniter is hermetically sealed, and said ignition element is a bridgewire.
16. (amended) A method of operating a system of electronic ~~pyrotechnic devices~~ detonators for use in mining or blasting, comprising the following steps:
- a) providing a master device and a bus connected to the master device;
  - b) connecting a plurality of electronic ~~pyrotechnic devices~~ detonators to said bus;
  - c) issuing one or more commands from said master device on said bus; and,
  - d) after step c), performing one or more firing-readiness diagnostics on said system.
17. (original) The method of claim 16, wherein step d) includes the step of performing one or more checks selected from the following group: (1) an incompatible attached device check, (2) an ignition element check, and (3) a firing capacitor capacitance check.
18. (amended) The method of claim 17, wherein each said ~~pyrotechnic device~~ electronic detonator comprises an igniter and electronic circuitry configured and/or

programmed to perform one or more ~~pyrotechnic device~~  
electronic detonator firing-readiness diagnostics.

19. (amended) The method of claim 18, further comprising the step of performing one or more firing-readiness diagnostics on said ~~pyrotechnic devices~~ electronic detonators before or during step c).
20. (amended) The method of claim 19, further comprising the step of issuing information to said master device from any ~~pyrotechnic device~~ electronic detonator that fails said firing-readiness diagnostics.
21. (new) The method of claim 18, wherein said each said igniter is hermetically sealed and includes a bridgewire.